

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 1 0003 091 WO 01	FOR FURTHER ACTION <small>see Form PCT/ISA/220 as well as, where applicable, item 5 below.</small>	
International application No. PCT/JP2004/017670	International filing date (day/month/year) 22/11/2004	(Earliest) Priority Date (day/month/year) 25/11/2003
Applicant CANON KABUSHIKI KAISHA		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box II).

3. ☐ **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

SYSTEM AND METHOD FOR COUNTING THE NUMBER OF LAYERS OF A MULTILAYER OBJECT BY MEANS OF ELECTROMAGNETIC WAVES

5. With regard to the **abstract**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. 2

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

- b. ☐ none of the figures is to be published with the abstract.

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Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)

A system or method is adapted for counting the number of layers of a multilayer object such as a stack of paper. An electromagnetic wave is caused to strike the surface of the multilayer object. Signals of the waves generated by reflection at the respective interfaces of the layers are evaluated to count the number of layers. Alternatively, the phase of the electromagnetic wave transmitted through the multilayer object, is evaluated to determine the number of layers. It is proposed to use frequencies from 30 GHz to 100 THz, ie. microwaves, millimeter waves and infrared waves.

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A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 G01B15/02 G06M9/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01B G06M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 007, no. 012 (M-186), 19 January 1983 (1983-01-19) & JP 57 170347 A (SHINODA SETSUKEI JIMUSHIYO:KK), 20 October 1982 (1982-10-20)	6-8
A	abstract	1-5, 9-13
A	PATENT ABSTRACTS OF JAPAN vol. 018, no. 624 (P-1833), 28 November 1994 (1994-11-28) & JP 06 241763 A (TOPPAN PRINTING CO LTD), 2 September 1994 (1994-09-02) cited in the application abstract	1-13
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the International filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *Z* document member of the same patent family

Date of the actual completion of the international search

28 February 2005

Date of mailing of the international search report

09/03/2005

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 199 22 125 A1 (BOEWE SYSTEC AG) 30 November 2000 (2000-11-30) column 3, line 59 - column 7, line 47; figures 1-5 -----	1-13
A	US 5 539 322 A (ZOUGH I ET AL) 23 July 1996 (1996-07-23) column 3, line 52 - column 6, line 16; figures 1-4 -----	1-13
A	US 3 490 037 A (ROYSON V. WILLIAMS) 13 January 1970 (1970-01-13) column 2, line 41 - column 3, line 10; figure 1 -----	1-13

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Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 57170347	A	20-10-1982	NONE	
JP 06241763	A	02-09-1994	NONE	
DE 19922125	A1	30-11-2000	WO EP	0070305 A1 1177410 A1
				23-11-2000 06-02-2002
US 5539322	A	23-07-1996	NONE	
US 3490037	A	13-01-1970	GB DE	1120993 A 1548178 A1
				24-07-1968 11-09-1969